

Science, Service, Stewardship



Kona IEA working group meeting

PIFSC

March 7, 2010

**NOAA
FISHERIES
SERVICE**



Kona IEA meeting initial steps

Scoping: What are our key
(ecosystem) management issues?

Identify: What are the main drivers of
the system?

Work plan: what needs to be done
and who will do it?

Monitoring of ecosystem
indicators and
management
effectiveness

IEA 5 step process

Scoping

Develop EI

Risk Analysis

Assessment of
Ecosystem Status

Management
Strategy Evaluation



Scoping: What are our key (ecosystem) management issues?

1. Identify economic/anthropogenic impacts
 1. Coastal dev., aquaculture, ocean energy, etc
 2. Positive impacts from tourism (capacity to sustain?)
2. Impacts of fishing (extractive)
 1. Commercial/non-commercial/subsistence (Trad vs Mod)
3. Effects of climate change on Kona region
4. Shared user areas (MPAs, Rec dive/Aq. Fish coll.)
5. Introduced species/species diversity/endemic



Council key (ecosystem) management issues

1. Areas of larval retention (circulation model)
2. Aqua(Cage)culture (Also PIRO) Nutrient effect?
Exotics becoming introduced?
3. Aquarium industry (model area of closure)
4. Billfish (catch data) DAR 20 yr. CPUE decline. Model
closed area for Blue Marlin
5. Mapping out traditional knowledge
6. Private FADs (hated locally)
7. False Killer Whales



Kona (Non-official pilot project)

Establish the foundation for Kona IEA development

1. **Scoping:** Identify management goals, drivers
2. **Create data management infrastructure**
3. **Review and develop ecosystem indicators**
4. **Create/refine Ecosystem model(s)**

Deliverables

- **Identify and accumulate relevant Kona data sets (portal) (Y1)**
- **Construct/refine ecosystem indicators (point, TS) (Y1/2)**
- **Construct preliminary Kona Ecopath(sim) model (Y1?/2)**
- **Negotiation of data-sharing and collaboration (Y1?/2)**
- **2-3 page “brochure” detailing work to date and future IEA plan (external) i.e. “what would we do with funding” (Y1)**
- **Action plan for work towards IEA (internal) (Y1)**



Next Steps

Management

Research

Partners

Collation

Management

EI

Deploy/proj

Outreach


Models


Data portal



Data portal – Embryonic stage

[NOAA HOME](#) [WEATHER](#) [OCEANS](#) [FISHERIES](#) [CHARTING](#) [SATELLITES](#) [CLIMATE](#) [RESEARCH](#) [COASTS](#) [CAREERS](#)

**NOAA FISHERIES SERVICE**
PACIFIC ISLANDS FISHERIES SCIENCE CENTER

KONA REGION
INTEGRATED ECOSYSTEM ASSESSMENT

search

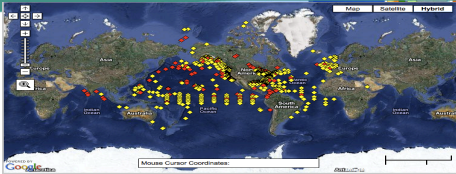
[this site](#) [all of NMFS](#)

[Presentations](#)

[Reports](#)

[Data](#)

[Contact Us](#)



Map Satellite Hybrid

Mouse Cursor Coordinates:

Meeting Information

Upcoming Meetings

News

Kona IEA Website Up and Running
The Kona IEA website is up and running with links to meeting presentations and agendas, background reports, and, soon, datasets. Please continue to check back for updates as the site, and the Kona IEA, grow.

Kona IEA Working Group Meeting 2
The second Kona IEA working group meeting will be held on 5 March 2010 at 0815 in the Dole Street seminar room. Click the Upcoming Meetings link on the upper right to read more.



List 2 – Data and status

1. Kimberly: MHI MRI database, QLCC, Nat. HI wind database, WespacFIN
2. Stewart: FEAT, B. of Econ. Anal., Dep. Of Labor, Census Dep.
3. Jeff/Reka: NDBC Buoys/Ocean models (e.g. HYCOM, tidal), satellite data
4. Ivor: HI 26 sites (4x/yr) fish/coral cover (Kona sites?)
5. Stacy: turtle data
6. Ed: 20 year N/S summer recruitment time series
7. CRED: CORIS database



List 2 – Data and status

1. Bob H: Kona cruise data
2. Marine Recreational data: Has “inland” but not specifically Kona
3. Ivor?: DAR 3 locations for coral reef fish (70s)
4. Ed?: Ted Hobson’s Kona series



Drivers (EI): What makes a healthy Kona?

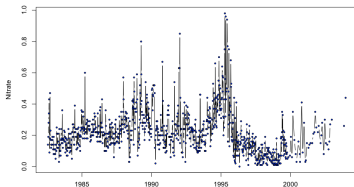
1. Physics – Trades (NWS), NEC speed/MEI?
2. Chemistry – Salinity Alkalinity? pH?
3. Biology – Species abundance? Diversity? Indicator species (e.g. Yellow Tang, billfish catch?), turtles (FPP).
4. Socio – Charter cost, beach closure, fish cost, gas cost. TBD
5. Geo(logy)graphy – Hot spots, KOAs, fresh water injection points, sediment (sed outflow) (GGP), Bathymetry



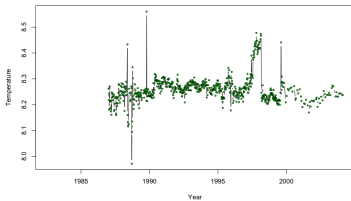
El examples

OTEC measurements (15m at Keahole Pt)

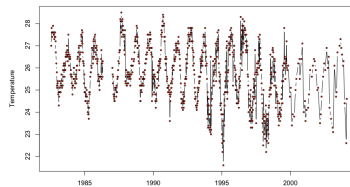
OTEC Surface (15m) nitrate readings



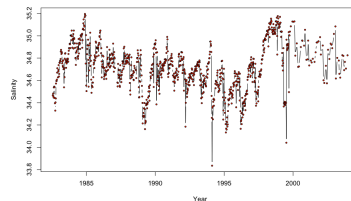
OTEC Surface (15m) pH readings



OTEC Surface (15m) Temperature readings



OTEC Surface (15m) Salinity readings

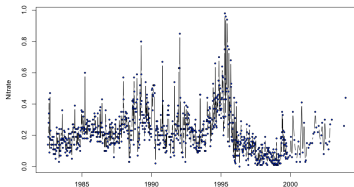




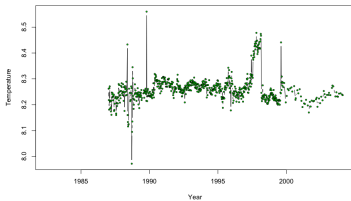
El examples

National Data Buoy Center

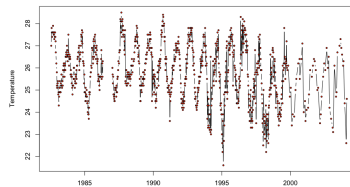
OTEC Surface (15m) nitrate readings



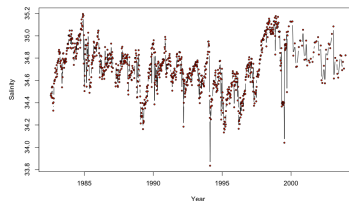
OTEC Surface (15m) pH readings



OTEC Surface (15m) Temperature readings



OTEC Surface (15m) Salinity readings





Models: What is important to capture?

1. Physical? – HYCOM, Tidal model? Kobayashi
2. Chemistry? Water quality, Available?
3. Biology/Ecology – EwE? MSA? Evan? Contract?
4. Soc/Econ? Stewart? Contract?

Similar to Ma et al. 2010, can we combine model frameworks to understand system, and effects from drivers



Work plan -

1. Evan
2. Ed
3. Stewart